Claims

[1] A damping alloy member characterized in that the improvement consists of a twin crystal type damping alloy made of Cu-Al-Mn alloy, Mg-Zr alloy, Mn-Cu alloy, Mn-Cu-Ni-Fe alloy, Cu-Al-Ni alloy, Ti-Ni alloy, Al-Zn alloy, Cu-Zn-Al alloy, Mg alloy, Cu-Si alloy, Fe-Mn-Si alloy, Fe-Ni-Co-Ti alloy, Fe-Ni-C alloy, Fe-Cr-Ni-Mn-Si-Co alloy and Ni-Al alloy, and has a shape of a flake, a wire or a spring for optimizing a deformation of the alloy.

[2] A rubber vibration isolator characterized in that a rubber and a damper made of the damping alloy member set forth in claim 1 are compounded.

[3] The rubber vibration isolator according to claim 2, wherein a most elastically deformed direction of the damper is made to be same as a deformation direction of the rubber vibration isolator.

[4] A floor vibration damping apparatus characterized in that the improvement consists of a composite material in which a rubber and the damping alloy member set forth in claim 1 are compounded.

[5] The floor vibration damping apparatus according to claim 4, wherein the damping alloy member has a spring structure such that a plurality of springs, having different spring constants in a height direction, are combined and used in such a manner that: a vibration under a low loading state is absorbed by a spring having a low spring constant; and a vibration under a high loading state is absorbed by a spring having a high spring constant, while the spring having a low spring constant is contacted to a cap.

[6] A tire characterized in that the damping alloy member set forth in claim 1 is embedded in the tire so as to reduce an impact applied to a moving tire from a road surface and to decrease a vibration and a noise.

[7] The tire according to claim 6, wherein the damping alloy member having a flake shape is used.

[8] A steel cord characterized in that the improvement has a structure such that the damping alloy member set forth in claim 1 is inserted into an inner portion and an outer portion of the steel cord.

[9] The steel cord according to claim 8, wherein the damping alloy member having a wire shape or a crimped wire shape is used, so that a deformation of the steel cord is easily transferred to the damping alloy member.

[10] A tire consisting of the steel cord set forth in claim 8 or 9, characterized in that, in the case such that the steel cord is deformed by an impact applied to a moving tire from a road surface, the improvement has a function such that a vibration and a noise are reduced by the damping alloy member.

[11] A quake-absorbing rubber characterized in that a damper member, in which a rubber and a damper made of the damping alloy member set forth in claim 1 are compounded, is combined with a laminated rubber having an integral structure obtained by laminating alternately a high damping rubber sheet and a metal plate.

[12] The quake-absorbing rubber according to claim 11, wherein the damper member is arranged at a center portion of the laminated rubber.

[13] The quake-absorbing rubber according to claim 11 or 12, wherein the damper has a flake shape.

[14] The quake-absorbing rubber according to one of claims 11 - 13, wherein the damper is mixed in the high damping rubber sheet of the laminated rubber.

[15] The quake-absorbing rubber according to one of claims 11 - 14, wherein use is made of the damper having a structure such that an intermediate layer made of a material having an intermediate deformation stress (Young's modulus, strength) between a damping property of the damper and a damping property of the rubber is arranged to an overall outer surface of the damper.

[16] A quake-absorbing rubber characterized in that a damper having a spring shape made of the damping alloy member set forth in claim 1 is wound around an outer portion of a laminated rubber having an integral structure obtained by laminating alternately a high damping rubber sheet and a metal plate, and, the laminated rubber and the damper are combined with each other.

[17] The quake-absorbing rubber according to claim 16, wherein a periphery of the damper having a spring shape is covered with an elastic member.